

B1 Sub C1
Serial No.:

09/42,068
Filed: August 18, 2000

Sub C1
3. (Amended) A method according to claim 27, 28, 29 or 30, wherein said first and second oligonucleotides are labeled.

Sub C1
4. (Previously amended) A method according to claim 3, wherein said first and second oligonucleotides bear different labels.

Sub C1
5. (Amended) A method according to claim 27, 28 or 29, wherein said first and second oligonucleotides are attached covalently through said first and second linkers, respectively, to said substrate.

B2 Sub C1
6. (Amended) A method according to claim 27, 28 or 29, wherein said first and second oligonucleotides are synthesized on said substrate.

Sub C1
7. (Amended) A method according to claim 27 and 30, wherein said substrate comprises discrete sites to which said first and second oligonucleotides may be linked.

Sub C1
8. A method according to claim 7, wherein said first and second oligonucleotides are immobilized to first and second beads through first and second linkers, respectively, and wherein said first and second beads are distributed at said discrete sites.

Sub C1 B3
9. (Amended) A method according to claim 27, 29 or 30, further comprising synthesizing said first and second oligonucleotides on said substrate.

Sub C1
10. The method according to claim 9, wherein said first and second oligonucleotides are synthesized by a synthesis method selected from the group consisting of printing and photolithography.

B4 Sub C1
27. (New) A method for multiplex detection of target nucleic acids comprising:

a) providing a substrate and at least first and second different oligonucleotides linked to said substrate through first and second cleavable linkers, respectively;

b) cleaving said first and second linkers, thereby releasing said first and second oligonucleotides from said substrate thereby generating a pool of oligonucleotides comprising said first and second oligonucleotides; and

c) contacting said first and second oligonucleotides with a composition comprising at least a first and second target nucleic acid, whereby said first and second target nucleic acids hybridize with said first and second oligonucleotides whereby said target nucleic acids are detected.

B7T
(CDI
Sub
C1
28. (New) A method for multiplex detection of target nucleic acids comprising:

a) providing an array comprising a substrate and a population of oligonucleotides, said population comprising at least first and second subpopulations comprising at least first and second different oligonucleotides, respectively, said first and second oligonucleotides being immobilized to first and second beads, respectively, through first and second cleavable linkers, respectively, said first and second beads being distributed on said substrate;

b) cleaving said first and second linkers, thereby releasing said first and second subpopulations from said first and second beads, thereby generating a pool of oligonucleotides comprising said first and second oligonucleotides; and

c) contacting said first and second oligonucleotides with a composition comprising at least a first and second target nucleic acid, whereby said first and second target nucleic acids hybridize with said first and second oligonucleotides whereby said target nucleic acids are detected.

29. (New) A method for multiplex detection of target nucleic acids comprising:

a) providing an array comprising a substrate and a population of oligonucleotides, said population comprising at least first and second subpopulations comprising at least first and second different oligonucleotides of known sequence, said first and second oligonucleotides being immobilized directly to a chip through first and second cleavable linkers, respectively;